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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,403	11/24/2003	Ho-Keng Lu	250907-1210	4106

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EXAMINER

SUN, SCOTT C

ART UNIT PAPER NUMBER

2182

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/720,403

Applicant(s)

LU ET AL.

Examiner

Scott Sun

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

RD

### DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagan (PG Pub# US 2001/0049755 A1) and further in view of Chow (US Patent #6,052,387).

As per claim 1, Kagan discloses a method for performing DMA transfers with dynamic descriptor structure, comprising the steps of:

Creating a new chain of descriptors each including an end-of-chain entry set to a false value except a dummy descriptor at the end of the new chain having the end-of-chain entry set to a true value, wherein each of the descriptors excluding the dummy descriptor further comprises one or more parameters identifying data to be transferred and a link pointer specifying a next descriptor within the new chain (Paragraph 50-57)

Appending the new descriptor chain to a previous descriptor chain, if any, by transferring the parameters and the link pointer of the first descriptor within the new descriptor chain to a dummy descriptor of the previous descriptor chain (paragraph 58)

Changing the end-of-chain entry of the dummy descriptor within the previous descriptor chain from the true value to the false value (Paragraph 63)

Fetching the descriptor specified by a next address (62)

Determining whether the end-of-chain entry of the current fetched descriptor is set to the false value (62-63)

If so, updating the next address with the link pointer of the current fetched descriptor (62)

Transferring the data identified in the parameter of the currently fetched descriptor (50-55)

Kagan does not disclose expressly the descriptors each including an end-of-chain entry.

Chow discloses descriptors each including an end-of-chain entry (Figure 4B; column 4, lines 26-40)

As per claim 2, Kagan discloses the method as recited in claim 1, further comprising the step of issuing a command after the new descriptor chain is appended to the previous descriptor chain (paragraph 64-65)

As per claim 3, Kagan discloses the method as recited in claim 2 further comprising the step of causing the next address to point to the first descriptor within the new descriptor chain before the issuing step (paragraph 63-64)

As per claim 4, Kagan does not disclose expressly the method as recited in claim 2 further comprising the step of ignoring the issued command if the data transfer identified in the previous descriptor chain is being performed

Chow discloses a step of ignoring the issued command if the data transfer identified in the previous descriptor chain is being performed (Column 5, lines 15-30)

As per claim 5, Kagan discloses the method as recited in claim 2 further comprising the step of accepting the issued command if there are no more data transfers identified in the previous descriptor chain (paragraph 64)

As per claim 6, Kagan does not disclose expressly the method as recited in claim 1 wherein the fetching step through the transferring step are executed in a loop until the end-of-chain entry with the true value is detected in the determining step

Chow discloses the fetching step through the transferring step are executed in a loop until the end-of-chain entry with the true value is detected in the determining step (Column 5, lines 7-14)

As per claim 7, Kagan does not disclose expressly the method as recited in claim 5, wherein, after acceptance of the issued command, the fetching step through the transferring step are executed in a loop until the end-of-chain entry with the true value is detected in the determining step

Chow discloses the fetching step through the transferring step are executed in a loop until the end-of-chain entry with the true value is detected in the determining step (Column 5, lines 7-14)

Kagan's invention and Chow's invention are from the same field of managing and linking lists of descriptors related to DMA data transfers. Furthermore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to combine Kagan's invention with Chow's invention by adding an additional entry (bit) to Kagan's descriptors. The motivation for doing so would have been to allow more efficiency when performing list modifications (Chow, column 5, lines 5-14)

As per claims 8-15, the examiner finds these claims containing the same limitations as claims 1-7. The same arguments used in rejection of claims 1-7 are applied in the same manner in rejection of claims 8-15.

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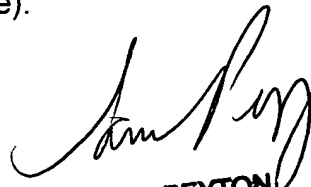
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675. The examiner can normally be reached on M-F, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272-4083. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

8/23/05

  
ANNARA PEYTON  
PRIMARY EXAMINER